

MS4 Program Plan



Chesterfield County, Virginia
VPDES Permit No. VA0088609

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Introduction

Chesterfield County's Virginia Stormwater Management Program (VSMP) Individual Municipal Separate Storm Sewer System (MS4) Permit No. VA0088609 was reissued to the county on December 17, 2014 under the Virginia Pollutant Discharge Elimination System (VPDES) permitting program of the Virginia Stormwater Management Act in a manner consistent with the Clean Water Act. The purpose of the permit is to authorize the discharge of stormwater from the MS4 and require the implementation of programs, which if managed effectively will control and manage stormwater and reduce the pollutants discharged from the MS4 to waters of the state. The Chesterfield County Department of Environmental Engineering (DEE) is responsible for overall implementation of the VSMP permit and reporting requirements.

The purpose of this document, the MS4 Program Plan (MS4PP), is to describe the system of programs, ordinances, policies, procedures, practices, plans and controls, employed to prohibit unauthorized non-stormwater discharges into the MS4, to reduce the discharge of pollutants from the county's MS4 to the maximum extent practicable and to comply with state and federal regulations. Please note specific reference shall be made to any ordinance more stringent than the regulations. The plan provides a framework for managing stormwater runoff and the associated pollutants that enter into and discharge from the county's storm sewer system. The MS4PP allows for a consistent method of implementing the requirements of the MS4 permit, monitoring the program progress and reporting the results to the Department of Environmental Quality (DEQ) and to stakeholders in the county.

The organization of this document follows the structure of the permit addressing all of the major components required for the implementation of the MS4PP as outlined in Part I.B., Stormwater Management.

- The MS4PP includes the following information for each subpart of Part I.B.1., Planning and each subpart of Part I.B.2., MS4 Program Plan Implementation, of the MS4 permit:
 - **PURPOSE** – the purpose of the MS4PP element.
 - **BACKGROUND** – refers to a brief discussion of the county's implementation efforts prior to the reissuance of Permit No. VA0088609 in December of 2014.
 - **REQUIREMENTS** – the primary task of the MS4PP element.
 - **UPDATES** – refers to a brief discussion of changes, modifications and/or additions to the county's implementation efforts after the reissuance of Permit No. VA0088609 in December of 2014.
 - **ROLES & RESPONSIBILITIES** – briefly explains how the county implements the specific portions of the MS4PP. Each section within the MS4PP identifies four (4) main roles of responsibility: Administer, Manage, Implement and Evaluate. Unless specific responsibilities are detailed, the roles and responsibilities of the



specific county departments, divisions, or subdivisions identified in each section may include all or some subset of the following defined responsibilities:

Administer:

- Makes key decisions for the program
- Assures availability of essential program resources
- Approves the budget and staffing
- Ultimate authority and responsibility for the program
- Ensures compliance with the permit

Manage:

- Develops and maintains the MS4PP
- Manages program deliverables in line with the permit and MS4PP
- Monitors program progress and performance
- Manages program activities and evaluations
- Develops informational/data tracking systems
- Manages the work of consultants
- Provides documentation of program activities for annual reporting
- Provides data analysis
- Updates, as necessary, written policies and procedures
- Ensures staff is trained and maintains necessary certifications
- Ensures compliance with the permit

Implement:

- Actively works on the program, at some stage, during the lifetime of the program (see specific activities in sections)

Evaluate:

- Provides guidance for compliance with the permit
- Ensures data is reported properly and in a timely manner
- Ensures written documentation and MS4PP updates are completed and reported properly and in a timely manner
- Evaluates the program efforts and reports findings.

- **DOCUMENTATION** – by reference, specific county operational controls, legal authority, policies, procedures, checklists, plans and documents that apply to the MS4PP element.
- **SCHEDULE OF ACTIVITIES & REPORTING** – schedule of major activities planned and reporting for the permit term.
- **CONTACT** – point of contact for each department associated with implementing the specific MS4PP element.
- **LAST REVISION** – a table providing details on modifications and changes to the MS4PP section not to include document edits.
- The following documents will accompany the MS4PP:
 - **APPENDIX A: LIST OF ABBREVIATIONS**
 - **APPENDIX B: LIST OF POLICIES AND PROCEDURES**
 - **APPENDIX C: SCHEDULE OF ACTIVITIES**
 - **APPENDIX D: LIST OF DEPARTMENT CONTACTS**



Part I.B. Stormwater Management

1. Planning

PURPOSE

Provide for a cost-benefit analysis and schedule for stormwater pollutant reduction projects for consideration in conjunction with the county's Capital Improvement Plan (CIP).

BACKGROUND

Chesterfield County, in accordance with state code and the County Charter, prepares a five-year CIP. The CIP, revised annually, is a long-term planning tool that guides the design, financing, construction and maintenance of public infrastructure. In addition, the CIP forecasts operating costs associated with each project. Upon adoption of the CIP, funds are appropriated for the first year of the plan. The funds shown in years two through five of the plan are adopted for planning purposes, and are reevaluated and appropriated with the adoption of the respective fiscal year's budget. The county strives to be a good fiscal steward by constructing, maintaining and operating public facilities as efficiently and effectively as possible. In 2013, DEE contracted with ARCADIS Inc., to provide information on cost estimates for recommended stormwater treatment strategies in order to assist in planning for future capital costs of potential stormwater projects. In Fiscal Year 2014, staff initiated the financial planning in an effort to address the costs associated with the future requirements of the stormwater permit and water quality improvements.

REQUIREMENTS

Submit to DEQ a Stormwater CIP identifying potential stormwater projects for consideration. Selection of a project is based on a cost-benefit analysis which includes the number of acres treated by the Best Management Practices (BMP), impervious area draining into BMPs, condition of the downstream channel, amount of pollutant reduction, feasibility for implementation, the unit costs for pollutant reduction and other benefits from the proposed BMP. Each project proposed for implementation should improve stormwater management and pollutant reduction from the MS4 to the receiving waters. The Stormwater CIP should also include a tentative schedule for project implementation.

UPDATES

In Permit Year (PY) 1, DEE submitted a Stormwater CIP to DEQ that included cost-benefit analyses and a tentative schedule of projects to be implemented. The construction process for three projects, a regional stormwater facility and two stream restorations were initiated in 2015.



ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Development				
Management		✓		
Inspections			✓	
Plans Review			✓	
Stormwater Permit		✓		✓
Contractor			✓	
	Budget & Management			
			✓	

ADMINISTER

- DEE (Administration)
 - Develops narrative, written documentation and Stormwater CIP components.

MANAGE

- DEE (Development Management Division (Development Management) and Stormwater Permit Section (Stormwater Permit))
 - Assists in the development of Stormwater CIP components.
 - Assists in the identification of potential projects.
 - Provides comment and input of selected projects.
 - Assists in the review and evaluation of potential and selected projects.
- Chesterfield County Department of Budget and Management (Budget & Management)
 - Assists in the development of Stormwater CIP components.
 - Publishes CIP for county review and approval.

DOCUMENTATION

Stormwater Capital Improvement Plan

SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 – Provide DEQ a web link to the Stormwater CIP.
- PY 1-5 – Continue to implement program, modify as needed.

CONTACT

DEE—Director



LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

DRAFT



2. MS4 Program Implementation

a) Construction Site Runoff and Post Construction Runoff from Areas of New Development and Development on Prior Developed Lands

PURPOSE

To reduce the amount of sediment generated from construction sites and reduce the off-site transport of sediment and construction-related pollutants to the MS4.

BACKGROUND

Since 1989, the county administered an erosion and sediment control (ESC) program in accordance with the Virginia Erosion and Sediment Control Regulations. The county's Erosion and Sediment Control Ordinance (Chapter 8: Article II. Erosion and Sediment Control) describes the requirements of the ESC program. The county has required both nonstructural and structural stormwater controls since 1991, in accordance with Chesapeake Bay Preservation Area Designation and Management Regulations, to meet construction and post-construction site runoff requirements. Structural stormwater facilities classified as Stormwater Management Facilities (SWM)s provide downstream flood control, while BMPs provide for quality and/or quantity controls. In 2013, the Stormwater Management Act and its attendant regulations which include the General Permit for Discharges of Stormwater from Construction Activities required designated MS4s, such as Chesterfield, to authorize coverage for land disturbance activities under the VSMP Construction Permit. In 2014, staff proposed amendments to county ordinance Chapter 8 Section(s) 8-1 through 8-16 in accordance with the VSMP Regulations (9VAC25-870). The regulations provide localities the ability to manage the quantity and quality of stormwater runoff from construction activities. The state approved amendments were adopted by the BOS on April 9, 2014.

LEGAL AUTHORITIES MORE STRINGENT THAN STATE REGULATIONS

In 1989, as a result of the Swift Creek Reservoir Watershed assessment, the Board of Supervisors (BOS) adopted goals in 1992 to protect the Swift Creek Reservoir and established a Watershed Management Committee that included citizen and staff representatives charged with identifying strategies and alternatives to protect the reservoir. Based on the committee's recommendation, the BOS established through ordinance Chapter 19.1, Article V, Division 3. Upper Swift Creek Watershed, a more



restrictive phosphorus-loading limit of 0.22 pounds per acre per year (lbs/ac/yr) for new residential development. In 2008, per staff recommendations, the BOS adopted additional protection for the watershed, to include more restrictive post-development phosphorus-loading rates for redevelopment and additional measures other than the minimum standards contained in the state ESC handbook. These measures included enhanced perimeter protection and reporting.

UPDATES

In PY1, DEE made revisions to align the program with the state permit requirements. The appropriate staff obtained new VSMP certifications and/or maintained ESC certifications. DEE maintains a certified stormwater management program administrator, plan reviewers and inspectors on staff. DEE also implemented a civil penalty form to improve the documentation of enforcement process for VSMP violations. In PY1, DEE worked in conjunction with the Chesterfield County Attorney's Office, Department of Utilities (Utilities) and Right-of-Way Office (ROW) to develop deed restrictions for single family lots.

DRAFT



Erosion and Sediment Control Program

Part I.B.2.a)1)

REQUIREMENTS

Establish and administer a local ESC program consistent with Virginia Erosion and Sediment Control Law §62.1-44.15:54 of the Code of Virginia and Virginia Erosion and Sediment Control Regulations 9VAC25-840 et seq.. To manage the effective control of soil erosion and sediment deposition associated with land-disturbing construction activities. In 2014, the county ordinance was amended to include Chapter 8 Article II. Erosion and Sediment Control in accordance with the state regulations.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Development Management		✓		
Inspections			✓	
Plans Review			✓	
Stormwater Permit				✓
Contractor			✓	
	Building Inspections			
			✓	

ADMINISTER

- DEE (Administration)
 - Maintains local authority under County Code Chapter 8: Article II. Erosion and Sediment Control that governs the county's local ESC control program.
 - Ensures compliance with permit by maintaining program consistency rating from DEQ and updating program as necessary.

MANAGE

- DEE (Development Management)
 - Responsible for regulation updates.
 - Ensures staff is trained and maintains necessary certifications for ESC for plan reviewers and inspectors.
 - Updates, as necessary, written policies and procedures to ensure that ESC plans and measures are designed, installed and maintained in accordance with regulations.
 - Manages issuance of land disturbance permits and documentation of responsible land disturber certifications.



IMPLEMENT

- DEE (Plans Review, Contractor)
 - Reviews construction plans and ESC plans for compliance with the county's ESC ordinance, design standards & polices.
 - Maintains project documentation on file and in tracking system.
 - Performs inspections as needed.
 - Documents & reports program results.
- DEE (Inspections)
 - Inspects all construction activities that have land disturbance permits and implement enforcement actions for non-compliance with land disturbance permits.
 - Tracks regulated land-disturbing activities.
 - Maintains copies of inspection reports and update information in tracking system.
 - Maintains copies of enforcement actions for non-compliance and updates information in tracking system. Documentation to include:
 - Notice to Comply
 - Notice of Violation
 - Civil penalties
- Department of Building Inspections (BI)
 - Inspects single-family residences that have an agreement in lieu of an ESC plan. The agreement specifies conservation measures that must be implemented during construction.
 - Refers issues needing enforcement action for non-compliance with land-disturbing activities to DEE
 - Tracks regulated land-disturbing activities
 - Maintains copies of inspection reports and updates information in tracking system

DOCUMENTATION

Agreement in Lieu of an Erosion and Sediment Control Plan and Stormwater Management Plan for Single Family Residence

County Code Chapter 8: Article II. Erosion and Sediment Control

Environmental Engineering Inspector Guidance Manual*

Environmental Engineering Reference Manual*

Pass (database)

Subdivision Plan Design/Review Checklist

To be updated upon further development of guidance documents from DEQ



SCHEDULE OF ACTIVITIES & REPORTING

- PY 1-5 – Continue to implement program, modify as needed.
 - Provide annually:
 - A summary of measures or modifications taken for continued implement of the program.
- PY 1-5 – Continue to maintain all necessary project documentation.
 - Report annually:
 - Total number of regulated land-disturbing activities approved and
 - Total number of acres disturbed.
 - Total number of land-disturbing activity inspections conducted and
 - Total number and type (Notice of Compliance, Notice of Violations and civil penalties) of each enforcement action taken.

CONTACT

DEE—Assistant Director

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit



Stormwater Management Program

Part I.B.2.a)1)

REQUIREMENTS

Establish and administer a local stormwater management program consistent with the Virginia Stormwater Management Act § 62.1-44.15:27 of the Code of Virginia and Virginia Stormwater Management Program Regulations 9VAC25-870 et seq.. To manage the quality and quantity of runoff resulting from land-disturbing construction activities and ensure the long-term responsibility for and maintenance of stormwater management control devices and other techniques specified to manage the quality and quantity of stormwater runoff. In 2014, the county ordinance was amended to include Chapter 8 Article I. Stormwater Management in accordance with the state regulations.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Development Management		✓		
Inspections			✓	
Plans Review			✓	
Stormwater Permit				✓
Contractor			✓	

ADMINISTER

- DEE (Administration)
 - Maintains local authority under County Code Chapter 8: Article I. Stormwater Management that governs the county's local stormwater management program.
 - Ensures compliance with permit by maintaining program consistency rating from DEQ and updating program as necessary.

MANAGE

- DEE (Development Management)
 - Responsible for regulation updates.
 - Ensures staff is trained and maintains necessary certifications for Stormwater Management Program administrator, plan reviewers and inspectors.
 - Updates, as necessary, written policies and procedures to ensure that stormwater management plans and facilities are designed, installed and maintained in accordance with regulations.
 - Ensures receipt of coverage under General VPDES Permit for Discharges of Stormwater from Construction Activities.



IMPLEMENT

- DEE (Plans Review, Contractor)
 - Reviews construction plans and stormwater management plans for compliance with the county's stormwater management ordinance and VSMP design standards & polices.
 - Maintains project documentation on file and in tracking system.
 - Performs inspections as needed.
 - Documents & reports program results.
- DEE (Inspections)
 - Inspects all construction activities that have land disturbance permits and implement enforcement actions for non-compliance with land disturbance permits.
 - Tracks regulated land-disturbing activities.
 - Maintains copies of inspection reports and update information in tracking system.
 - Maintains copies of enforcement actions for non-compliance and update information in tracking system. Documentation to include:
 - Notice to Comply
 - Notice of Violation
 - Civil penalties

DOCUMENTATION

Agreement in Lieu of an Erosion and Sediment Control Plan and Stormwater Management Plan for Single Family Residence

Chesterfield County Pollution Prevention Plan Sheet

Chesterfield County Stormwater Pollution Prevention Plan Template

County Code Chapter 8: Article I. Stormwater Management

Environmental Engineering Inspector Guidance Manual*

Environmental Engineering Reference Manual*

PASS (database)

Sample BMP Certification

Stormwater Compliance Table for Part IIB

Stormwater Outfall Table for Part IIB

Subdivision Plan Design/Review Checklist

To be updated upon further development of guidance documents from DEQ



SCHEDULE OF ACTIVITIES & REPORTING

- PY 1-5 – Continue to implement program, modify as needed.
 - Provide annually:
 - A summary of measures or modifications taken for continued implementation of the program.
- PY 1-5 – Continue to maintain all necessary project documentation.
 - Report annually:
 - Total number of regulated land-disturbing activities approved and
 - Total number of acres disturbed.
 - Total number of land-disturbing activity inspections conducted and
 - Total number and type (Notice of Compliance, Notice of Violations and civil penalties) of each enforcement action taken.

CONTACT

DEE—Assistant Director

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit



b) Retrofitting on Prior Developed Lands

PURPOSE

To manage, improve and maintain existing stormwater infrastructure to ensure the integrity of the MS4.

BACKGROUND

The county owns or maintains several hundred miles of stormwater infrastructure through the DEE Drainage Section (Drainage). Routine maintenance and upkeep of the system is required weekly while large-scale drainage and infrastructure improvement projects are identified planned and funded through the CIP process. Annually, approximately \$400,000.00 is set aside for projects to ensure the integrity of the stormwater infrastructure. Projects include repair or replacement of failed/degraded storm sewers, installation of new storm sewers or facilities to reduce impacts of flooding, repair of BMPs, maintenance dredging of BMPs and other related projects to ensure the integrity of the stormwater infrastructure.

REQUIREMENTS

Complete five (5) projects outlined in the Stormwater CIP within 54 months of the effective date of the permit. Projects included in Total Maximum Daily Load (TMDL) action plans are to satisfy technology requirements of reducing pollutants to the maximum extent practicable and for the protection of downstream water quality. Other Stormwater CIP projects may be implemented to maintain the integrity of the stormwater infrastructure of the county through the implementation of drainage and infrastructure improvement projects.

UPDATES

Five (5) projects selected for implementation will serve to meet the requirements of Part I.D of the state permit. During PY1, construction on three (3) of these projects was initiated and managed by the Drainage and Stormwater Permit sections. These projects are scheduled to be completed in PY2.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓		✓
Drainage		✓	✓	
Contractor			✓	



ADMINISTER

- DEE (Administration)
 - With assistance from Budget & Management, revises the CIP annually.
 - Identifies projects to be considered, prioritizes their order, cost estimates and funding sources.
 - Ensures compliance with permit by maintaining a Stormwater CIP and updating program as necessary.

MANAGE

- DEE (Stormwater Permit, Drainage)
 - Ensures that at least five (5) projects are completed within 54 months after the effective date of this state permit.
 - Provides the necessary status updates for projects identified in the Stormwater CIP.

IMPLEMENT

- DEE (Drainage, Contractor)
 - Construct projects according to the approved plans

DOCUMENTATION

Stormwater Capital Improvement Plan.

SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 – Select five projects identified on the Stormwater CIP to be considered for implementation in response to Chesapeake Bay TMDL Action Plan. Initiate the planning, designing and construction of selected projects.
 - Provide annually:
 - Update the information and status for only those selected projects not considered in response of PART I. D. TMDL ACTION PLAN AND IMPLEMENTATION.
- PY 2-3 – Continue to implement program, modify as needed to maintain compliance.
- PY 4 – Evaluate completeness of projects outlined in the county's Chesapeake Bay TMDL Action Plan.
- PY 5 – 100% completion of selected projects by June 2019.

CONTACT

DEE—Stormwater Permit Manager

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit



c) Roadways

PURPOSE

To maintain county owned or operated roadways and parking lots in a manner to minimize release of pollutants, from maintenance and weather related activities, to waters and other natural resources.

BACKGROUND

Chesterfield County's Transportation Department proactively plans for road improvements and new transportation facilities based upon anticipated growth and development as suggested on the Land Use Plan Map. Road improvements are made by either the public or private sector. Public sector projects are initiated when traffic conditions, such as congestion or safety, warrant the need and as funding becomes available. Private sector improvements are typically provided in conjunction with development based upon the impact of the project. The existing road network, similar to other Virginia counties, is part of the Virginia State Highway System, which is managed and maintained by the Virginia Department of Transportation (VDOT). About 1% of the vehicle transportation infrastructure, to include some local roads, connectors and parking lots, is maintained by county staff or contracted.

REQUIREMENTS

Develop and maintain an accurate list of permittee maintained roads, streets and parking lots. Develop and implement standard protocols for the maintenance and repair of permittee maintained roads, street and parking lots.

UPDATES

In PY1, a list of permittee maintained roads, streets and parking lots was developed through geospatial analysis and reviewed for accuracy. Maintenance continued to be performed by General Services Building and Grounds Maintenance Division (B&G), the county's Department of Parks and Recreation (Parks), General Services – Fleet Management (Fleet) and contractors. Practices from multiple departments during road, street and parking lot maintenance were documented in order to establish needs for written protocols.



ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓		✓
Drainage		✓	✓	
	Parks			
			✓	
	General Services			
GSEN		✓		
Fleet			✓	
B&G			✓	

MANAGE

- DEE (Stormwater Permit)
 - Develops and maintains an accurate list of permittee maintained roads, streets and parking lots.
- General Services – Environmental Management (GSEN)
 - Develops and coordinates countywide written protocols and procedures for maintenance of county infrastructure, equipment, weather related activities and material storage.

IMPLEMENT

- Parks
 - Maintains roads, streets and parking lots inside of county owned parks.
- General Services (B&G)
 - Maintains permittee owned parking lots
- General Services (Fleet)
 - Maintains parking lots at maintenance facilities

DOCUMENTATION

4.4.6.12 OC Proper Disposal of Street Sweeper Waste
 4.4.6.CWOC.1 Contractor Environmental Procedure
 CHKLST.0004 Contractor Environmental Checklist



SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 – Develop list of permittee maintained roads, streets and parking lots and modify, as needed, to maintain compliance.
- PY 2 – Evaluate documentation standardization needs and opportunities for increased coordination efforts between departments.
- PY 2-5 – Continue to update list of permittee maintained roads, streets and parking lots, modify as needed.
 - Provide in PY3:
 - A copy of written protocols for permittee maintained roads, streets, and parking lot maintenance, equipment maintenance and material storage designed to minimize pollutant discharge.

CONTACT

DEE—Stormwater Permit Manager
B&G—Superintendent
Parks—Assistant Director
Fleet—Environmental Health & Safety Officer
GSEN—Environmental Manager

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit



d) Pesticide, Herbicide, and Fertilizer Application

PURPOSE

To ensure the appropriate methods of pesticide, herbicide and fertilizer application, storage, transport and disposal are practiced by county staff with a goal of reducing pollutant discharges to the MS4.

BACKGROUND

The management and maintenance of the county's turf, landscape and recreational areas are shared between several departments. The departments are responsible for employing good housekeeping/pollution prevention measures regarding pesticide, herbicide and fertilizer application. Department specific practices in addition to countywide procedures have been developed. At this time, the county does not regulate the use, application or storage of fertilizer pursuant to §3.2-3602 of the Code of Virginia. The county also does not have any lands managed under integrated pest management plans.

REQUIREMENTS

Develop and implement standard protocols for the storage and application of pesticides, herbicides and fertilizers on county properties.

UPDATES

In PY1, a list of all known permittee lands to which nutrients were applied to a contiguous area of more than one acre was created. In PY2, the need for integrated pest management plans will be evaluated.



ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓		✓
Drainage		✓	✓	
Contractor			✓	
	General Services			
GSEN		✓		
B&G		✓	✓	
	Parks			
		✓	✓	
	Utilities			
		✓	✓	

MANAGE

- DEE (Stormwater Permit)
 - Develops and maintains a list of permittee lands where nutrients are applied to a contiguous area of more than one acre.
- DEE (Drainage)
 - Ensures proper implementation and compliance with regulations
 - Develops and coordinates good housekeeping/pollution prevention measures in application, storage, transport and disposal of pesticides, herbicides and fertilizers.
- General Services (GSEN, B&G)
 - Ensures proper implementation and compliance with regulations.
 - Develops and coordinates implementation of turf and landscape nutrient management plans.
 - Develops and coordinates good housekeeping/pollution prevention measures in the application, storage, transport and disposal of pesticides, herbicides and fertilizers.

IMPLEMENT

- Parks, General Services (B&G), Utilities, DEE (Drainage)
 - Ensures staff is trained and standard operating procedures are followed
 - Inspects and documents proper application, cleanup, storage, spill control and disposal or recycling of waste material.
 - Documentation of activities and application.
 - Employs good housekeeping/pollution prevention measures



DOCUMENTATION

4.4.6. CWOC.1. Contractor Environmental Procedure
4.4.6. CWOC.12. Pesticide Management Procedure
4.4.6. CWOC.18. Waste Mgmt Procedure
B&G 4.4.6.2 OC Application Equipment Cleaning
CHKLST.0004 Contractor Environmental Checklist
ENVMGT.CHKLST.0035.SMART
Parks Pesticide Management SOP
Parks Spill Response SOP

SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 – Review existing practices and procedures, develop list of lands in which nutrients are applied to greater than one contiguous acre, continue to implement programs, and modify as needed to maintain compliance.
 - Provide with initial report:
 - The list of lands and acreage on which nutrients are applied.
- PY 2-5 – Follow Turf and Landscape Nutrient Management Plans (NMP)s schedule, continue to implement program, modify as needed to maintain compliance.
 - Implement NMPs according to the following schedule:
 - No less than 15% in PY 2
 - No less than 40% in PY 3
 - No less than 75% in PY 4
 - 100% completion in PY 5
 - Provide annually:
 - An updated list of properties for which NMPs have been implemented during the reporting year.
 - Annually, update and maintain the following information:
 - Total acreage of permittee lands upon which nutrients are applied and controlled.
 - Total acreage of permittee lands where turf and landscape nutrient management plans are required.
 - Total acreage of permittee lands covered by turf and landscape nutrient management plans.
 - The cumulative total of acreage under NMPs.
- PY 1-5 – Track the acreage of permittee lands managed under Integrated Pest Management Plans.
 - Provide annually:
 - The cumulative total of acreage managed under Integrated Pest Management Plans.



CONTACT

DEE—Stormwater Permit Manager
B&G—Superintendent
Parks—Assistant Director
DEE—Drainage Superintendent
GSEN—Environmental Manager
Utilities—Senior Utility Supervisor (1)

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

DRAFT



e) Illicit Discharge and Improper Disposal

PURPOSE

To develop, implement and enforce a program to detect and eliminate non-stormwater discharges to the MS4.

BACKGROUND

In 1997, the county adopted an ordinance prohibiting the discharge of anything that is not composed entirely of stormwater into the MS4. Common non-stormwater discharges include sanitary wastewater, automobile maintenance waste products such as motor oil or antifreeze, laundry wastewater, household toxic substances, spills from car accidents, and industrial sources of cooling waters, rinse water, and other process wastewater. Although these illicit discharges can enter the storm sewer system in various ways, they generally result from either direct connections (e.g. wastewater piping either mistakenly or deliberately connected to the storm drains) or indirect connections (e.g. infiltration into the storm drain system or spills). Nonstormwater discharges listed under Part I.A.1.b) of the state permit and Section 8-36(b) of county ordinance are not, at this time, considered to be unlawful illicit discharges and require no additional restrictions. Investigations are performed by the county and are initiated in response to requests or complaints from residents, county staff and various county programs. Complaints or concerns about a spill of discharge may be received through the county's 24-hour hotline at (804) 717-6161.

UPDATES

In PY1, DEE continued to implement the Illicit Discharge and Improper Disposal (IDID) program, ensuring that existing program objectives aligned with the state permit requirements. Utilities continued to implement a sanitary sewer inspection program to minimize exfiltration to the MS4 from the sanitary sewer system by conducting sewer line inspections and performing maintenance where necessary. GSEN continued to operate its two convenience centers in the county to provide yearlong services to residents for proper disposal of a variety of household, yard and automotive wastes and continued to implements its anti-litter program.



Illicit Discharge and Improper Disposal

Part I.B.2.e)1)

REQUIREMENTS

Establish and administer an illicit discharge and improper disposal program that effectively prohibits discharges to the MS4 not authorized by the state permit.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓
Contractor			✓	
	General Services			
GSEN			✓	
	Fire Marshal			
			✓	
	Utilities			
O & M			✓	

ADMINISTER

- DEE (Administration)
 - Maintains local authority under County Code Chapter 8: Article III. Discharges to the Stormwater Sewer System.
 - Ensures compliance with permit by maintaining a program prohibiting illicit discharges, either separately or co-mingled with stormwater to the MS4.

MANAGE

- DEE (Stormwater Permit)
 - Responsible for regulation updates.



IMPLEMENT

- DEE (Stormwater Permit)
 - Identifies and investigates potential IDIDs.
 - Conducts pollution complaint investigations as a result of potential issues observed during the following field screening activities:
 - Dry Weather Screening
 - Wet Weather Screening
 - Industrial and High Risk Runoff outfall inspections
 - Storm Sewer Infrastructure Management
 - Initiates pollution complaints based on reports received from:
 - County personnel
 - Illicit Discharge Hotline
 - Other government agencies
 - Residents and businesses
 - Responds to IDIDs as necessary
 - Eliminate IDID within 30 days
 - Notice of Non-compliance and Notice of Violation issued, as needed
 - Require responsible party cleanup
 - Contain, collect and dispose when applicable
 - Cleanup by contractor, if needed
 - Reports discharges from the MS4, as needed, to DEQ
 - Verbal notification (within 24 hours of receiving report)
 - Written notification (within 5 days of receiving report)
- Fire & EMS Fire Marshal's Office (Fire Marshal)
 - Investigates and prosecutes certain offenses including those related to storage, use and transportation of hazardous materials and hazardous waste and environmental crimes.

DOCUMENTATION

County Code Chapter 8: Article III. Discharges to Stormwater Sewer System
Field and Laboratory Instrumentation SOP
General Program Supplement

SCHEDULE OF ACTIVITIES & REPORTING

- PY 1-5 – Review existing practices and procedures, continue to implement programs, and modify as needed to maintain compliance.
 - Provide annually:
 - A list of illicit discharges and
 - the source(s) of the discharge.
 - Detail any follow-up activities and
 - whether the discharge has been eliminated.



CONTACT

DEE—Stormwater Compliance Specialist

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

DRAFT



Sanitary Sewer Inspection Program

Part I.B.2.e)2)

REQUIREMENTS

Implement an inspection program which surveys the sanitary sewer system to identify and minimize exfiltration from the sanitary system to the MS4.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
Stormwater Permit	DEE			
		✓	✓	✓
O&M	Utilities			
	✓	✓	✓	

IMPLEMENT

- Utilities (Operations & Maintenance) (O&M)
 - Performance measures of Inflow and Infiltration Reduction goal.
 - Performs inspections:
 - Sewer lines are cleaned and/or televised and easements are cleared, as needed
 - Data monitored and recorded for effectiveness in decreasing sanitary sewer overflows.
 - Repairs are generated from inspections, as needed
 - Best professional judgement used to determine areas of concentration for inspection.
 - Inspects, at a minimum, 375,000 linear feet of sanitary sewer per permit cycle.
- DEE (Stormwater Permit)
 - Records all reported sanitary sewer overflows (SSO).
 - Evaluates potential impacts of SSO to MS4.
 - Responds to SSOs with potential to discharge to MS4
 - Initiates pollution complaint process
 - Responds accordingly including cleanup and remediation, if needed
 - Reports discharges from MS4 caused by SSO to DEQ, as needed
 - Verbal notification (within 24 hours of report received)
 - Written notification (within 5 days of report received)

DOCUMENTATION

WWC 2.05 Televising Wastewater Lines

WWC 4.5.1.1 Monitoring and Measuring Spreadsheet—Reduction of Wastewater Overflows



SCHEDULE OF ACTIVITIES & REPORTING

- PY 1-5 – Review existing practices and procedures, continue to implement programs, and modify as needed to maintain compliance.
 - Provide annually:
 - The linear feet of sanitary sewer inspected each permit year.

CONTACT

Utilities—Senior Utilities Supervisor (2)
DEE—Stormwater Compliance Specialist

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

DRAFT



Reducing the Discharge of Floatables

Part I.B.2.e)3)

REQUIREMENTS

Implement a program to reduce the discharge of floatables (e.g. litter and other human-generated waste) to the MS4.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Stormwater Permit		✓		✓
	General Services			
GSEN	✓	✓	✓	

MANAGE

- DEE (Stormwater Permit)
 - Ensure floatables monitoring requirements outlined in Part I.C.3 of the state permit work in cooperation with the county's Anti-Litter Program.

IMPLEMENT

- General Services (GSEN)
 - Continues to implement Anti-Litter Program
 - Year round litter collection
 - Sheriff's work crews
 - Assign-a-Highway probationers
 - Adopt-A Spot Program
 - Provides opportunities for individuals, businesses and organizations to adopt a specific location for a year
 - Provides bags, safety vests, trash grabbers and trash pickup for events
 - Business Partnership Program
 - Provides assistance to participating businesses to set and meet environmental goals
 - Conducts cleanups
 - Reduces waste

DOCUMENTATION

GSEN 4.4.6.4.1. Litter Pickup and Disposal

Procedures for monitoring requirements outlined in Part I.C.3. to be developed.



SCHEDULE OF ACTIVITIES & REPORTING

- PY 1-2 – Review existing practices and procedures, continue to implement programs, and modify as needed to maintain compliance.
 - No reporting requirements
- PY 2 – Develop floatables monitoring protocols in accordance with Part I.C.3., implement program, modify as needed to maintain compliance
 - No reporting requirements
- PY 3-5 – Review existing practices, continue to implement program, modify as needed to maintain compliance
 - No reporting requirements

CONTACT

GSEN—Anti-Litter Manager
DEE—Stormwater Permit Manager

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit



Recycling, Reuse and Proper Disposal of Motor Vehicle Fluids and Household Hazardous Waste

Part I.B.2.e)4)

REQUIREMENTS

Develop a program for residents promoting collection, proper disposal and recycling options for household wastes with the goal of reducing the discharge of harmful pollutants into the MS4 and receiving waters.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration				
Stormwater Permit		✓		✓
	General Services			
GSEN	✓	✓	✓	

ADMINISTER

- General Services (GSEN)
 - Maintains local authority under County Code Chapter 11- Garbage, Refuse and Weeds that governs the county's local Waste Management program.

IMPLEMENT

- General Services (GSEN)
 - Maintains two convenience centers for the collection of used motor vehicle fluids (such as oil and antifreeze) and household hazardous waste (HHW) (including paints, solvents, pesticides, herbicides and other materials).
 - Services are provided for county residents only
 - Facilities offer year round service
 - The fee and operating schedule is posted on the county's website
 - Informational flyers are distributed at fairs, public events and presentations given by county staff

DOCUMENTATION

County Code Chapter 11: Garbage, Refuse and Weeds

SCHEDULE OF ACTIVITIES & REPORTING

- PY 1-5 – Review existing practices and procedures, continue to implement programs, and modify as needed to maintain compliance.
 - No reporting requirements



CONTACT

GSEN—Environmental Manager

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

DRAFT



f) Spill Prevention and Response

PURPOSE

Minimize the release of pollutants from spills to the MS4 as a result of an incident requiring emergency response.

BACKGROUND

The Chesterfield County Fire & Emergency Medical Services (Fire & EMS) Hazardous Materials (HAZMAT) Response Team responds to reported incidents of hazardous material releases, spills and discharges in the county, regardless of whether the material has potential to enter the county's MS4, another MS4 such as VDOT's, or waters of the state. The county maintains Occupational Safety and Health Administration (OSHA) 1910.120 training for all firefighters, which includes spill response training, HAZMAT first responder certification and state spill response training for the designated HAZMAT team. Currently, over 450 firefighters are OSHA 29 Code of Federal Regulations 1910.120 and National Fire Protection Association (NFPA) 472 trained. The county has three designated HAZMAT fire stations with five (5) dedicated HAZMAT and foam response vehicles. The HAZMAT team has mutual aid agreements with the federal Defense Logistics Agency and Henrico County HAZMAT, which is the regional HAZMAT response team. The county has developed and implemented standard operational and procedural guidance for stormwater management, which aims to prevent unauthorized discharges to the stormwater conveyance systems.

REQUIREMENTS

Coordinate with the fire department and other departments to prevent, contain and respond to spills that may discharge into the MS4.

UPDATES

In PY1, Fire & EMS continued its spill prevention and response program and DEE examined practices to ensure existing program objectives aligned with the state permit requirements.



ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit Contractor		✓	✓	✓
			✓	
	Fire & EMS			
Emergency Response	✓	✓	✓	
Fire Marshal	✓	✓	✓	
	Police			
			✓	
	Risk			
		✓		
	General Services			
GSEN		✓		
	Utilities			
O&M			✓	
	Schools			
Maintenance		✓		

MANAGE

- Fire & EMS (Emergency Response, Fire Marshal)
 - Coordinates to prevent, contain and respond to spills that may discharge to the MS4.
- General Services (GSEN)
 - Assists in each department Emergency Action Plan including emergency response guidelines for accidental releases to the environment and HAZMAT spills.
 - Performs environmental compliance audits of various county agencies and maintains spill prevention, control and countermeasures (SPCC) and stormwater pollution prevention plans (SWPPP) for multiple facilities.
- General Services (GSEN), Schools, DEE (Stormwater Permit) and/or Chesterfield County Department of Risk Management (Risk)
 - Coordinates cleanup activities that occur on county property.



IMPLEMENT

- Chesterfield County Police Department (Police)
 - Personnel receive one-time spill response training and police vehicles are equipped with spill equipment.
- Fire and EMS (Emergency Response)
 - Responds to spills reported through Emergency Communications, and dispatches HAZMAT units as needed.
 - As needed, HAZMAT units deploy containment measures to prevent spills from entering storm drain systems or surface waters.
- Fire and EMS (Fire Marshal)
 - Utilizes legal means as necessary to attempt to have responsible parties initiate cleanup.
- DEE (Stormwater Permit)
 - Responds to reports of illicit discharges received and coordinates with Fire & EMS, including the Fire Marshal, as needed.
 - Utilizes legal means as necessary to attempt to have responsible parties initiate cleanup.
- Utilities (O&M)
 - Responds to prevent and contain spills that may discharge to the MS4.
 - Assists in cleanup measures as requested.

DOCUMENTATION

4.3.3. Objectives, Targets and Program Procedures
4.4.3. Communication Procedure
4.4.7. Emergency Preparedness and Response Procedure
4.5.2. Evaluation of Compliance Procedure
CHKLST.0034.Environmental Release Reporting FC
CHKLST.0035.SMART
Field and Laboratory Instrumentation SOP
General Program Supplement
Spill Response SOP

SCHEDULE OF ACTIVITIES

- PY 1 – Review existing practices and programs, continue to implement program, and modify, as needed, to maintain compliance.
 - Report annually:
 - Spills, the source, and a description of follow-up activities



CONTACT

DEE—Stormwater Compliance Specialist
GSEN—Environmental Manager
Fire & EMS—On-Duty Fire Marshal or Emergency Communications (911)
Police—Emergency Communications (911)
Risk—Environmental Health & Safety Manager
Utilities—On-Duty Personnel
Schools—Environmental Health and Safety Administrator

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

DRAFT



g) Industrial and High Risk Runoff

PURPOSE

Identify and control pollutants in stormwater discharges to the MS4 from industrial and high risk runoff facilities and industrial or commercial discharges determined to contribute a significant pollutant loading to the MS4.

BACKGROUND

DEE conducts inspections of both industrial and commercial facilities and monitors outfalls and stormwater conveyances having the potential to discharge or convey pollutants into the county's MS4. The county has established legal authority and implements an inspection and oversight program to monitor and control pollutants in stormwater discharges to the MS4 from industrial and commercial facilities.

REQUIREMENTS

Establish and administer an inspection program of industrial and high risk runoff facilities which discharge to the MS4.

UPDATES

In PY1, the Industrial and High Risk Runoff (IHRR) inspection program Standard Operating Procedure (SOP) was revised to include establishing prioritization criteria for industrial and high risk facilities and subsequent inspection schedules. These revisions also resulted in piloting new inspection and follow-up activities. A list of all known industrial and high-risk dischargers was created in PY1. Discharge Monitoring Reports (DMR)s were submitted and reviewed by DEE to determine if those facilities needed additional monitoring or stormwater controls.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓



MANAGE

- DEE (Stormwater Permit)
 - Maintains and updates a list of all known industrial and high risk dischargers.
 - Includes VPDES industrial stormwater permit holders
 - High risk dischargers:
 - Municipal landfills
 - Treatment, storage, or disposals facilities for municipal waste
 - Hazardous waste treatment, storage, disposal and recovery facilities
 - Facilities subject to Emergency Planning and Community Right-to-Know Act (EPCRA) Title III, Section 313
 - Maintenance to the list is performed as follows:
 - Stormwater permit holders updated twice annually
 - High risk discharges updated once annually
 - Develops and implements prioritized schedule and procedures to inspect outfalls.
 - Maintains a categorical list of industrial and/or commercial stormwater dischargers not regulated under the Virginia State Water Control Law.

IMPLEMENT

- DEE (Stormwater Permit)
 - Inspects outfalls per the procedures outlined in CEE 4.4.6-009 Industrial and High Risk Runoff Inspection Program.
 - Reviews DMRs submitted to the county
 - May conduct or require additional monitoring
 - Reports non-VPDES-permitted industrial facilities that are found to be contributing significant pollutant loadings to the MS4.
 - Refers facilities and operations identified in Part I.2.B.g)5) to the DEQ Piedmont Regional Office.

DOCUMENTATION

Commercial Detailed Facility Inspection Form
Detailed Facility Inspection Form
Dry Weather Screening SOP
Field and Laboratory Instrumentation SOP
General Outfall Inspection Form
General Program Supplement
Industrial and High Risk Runoff Inspection Program SOP
Outfall Field Screening Sheet
Stormwater Permit Coverage Self-Checklist
Wet Weather Screening SOP



SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 – Develop and maintain required policies, procedures and lists, implement prioritized inspections.
 - Report initially:
 - All known industrial and high risk dischargers that discharge to the MS4, a schedule of inspections and procedures for inspecting outfalls
- PY 1-5 – Review existing program and procedures, continue to implement program, update list of IHRR dischargers to the MS4, modify program as needed to maintain compliance.
 - Report annually:
 - Implementation of the inspection schedule
 - List of IHRR dischargers to the MS4
 - Inspections performed in the reporting year

CONTACT

DEE—Stormwater Compliance Specialist

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit



h) Storm Sewer Infrastructure Management

PURPOSE

Management of MS4 encompasses a variety of types of facilities and activities necessary to operate and maintain the county's infrastructure, which includes both stormwater treatment and the drainage system. MS4 maintenance activities are designed to provide a certain level of service to maintain the aesthetics of public areas, provide public safety, maintain public infrastructure, provide flood management and protect stormwater quality.

BACKGROUND

The county performs maintenance functions on the storm sewer system located in county easements and on county property. The stormwater infrastructure includes the conveyance system, consisting of pipes, ditches, and drop inlets and structural BMPs and stormwater management facilities. Storm sewer system maintenance work performed by the county is initiated in response to requests or complaints from residents, outfall screening inspections, system inspections and scheduled maintenance. In 1992, outfall locations were collected from the County's construction plans for commercial, industrial and residential development projects. The locations of outfalls were provided in a database format. This database was later converted into Environmental Systems Research Institute (ESRI) shapefiles for outfalls and major outfalls. Approximately 3,000 outfalls and 161 major outfalls were located with this method. In 1996, the County began to use GPS to locate the storm sewer pipes, outfalls, and other structures. Construction plans for commercial, industrial, and residential development projects were used to locate storm sewer structures in the field. Field data was post-processed then exported as ESRI shapefiles and were merged into the storm sewer geographic information system (GIS) layer. In 2014, the county contracted for the development of a new storm sewer GIS layer to incorporate previous mapping and update with information from new construction plans. In 2015, the county contracted for the development of a new GIS layer with inventory of all structural BMPs. The BMPs are maintained in a database that is used for scheduling inspections and maintenance.

UPDATES

In PY1, DEE examined and revised existing programs for maintenance and inspections of county-maintained and privately maintained stormwater infrastructure for alignment with the state permit requirements. DEE continued to have staff members within its Drainage section dedicated to the inspection and maintenance of SWM/BMP facilities in the county. Additionally, DEE continued to use an automated database that tracks notifications, inspections and maintenance activities performed for SWM/BMP facilities within the county. DEE staff developed draft written procedures for inspection and maintenance of county-maintained SWM/BMP facilities and MS4 infrastructure in the reporting year.



County Maintained SWM Facilities

Part I.B.2.h)1)

REQUIREMENTS

Ensure county-maintained SWM/BMP facilities and infrastructure are properly operated and maintained.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓
Drainage		✓	✓	
Contractor			✓	
	IST			
		✓		

MANAGE

- DEE (Stormwater Permit)
 - Ensures that the inspection program, inspect no less than 20% of the MS4 annually.
- DEE (Drainage)
 - Develops informational/data tracking systems (Assistance from IST).
 - Manages program for county maintained SWM/BMP facilities.
 - Develop written procedures for inspection and maintenance for county maintained facilities.

IMPLEMENT

- DEE (Drainage)
 - Inspect county maintained facilities per the procedures outlined in Maintenance and Inspections of County Maintained Facilities SOP.
 - Performs maintenance of county maintained facilities as follows:
 - As needed during inspections
 - In response to reports of potential drainage issues
 - According to the maintenance schedule
 - Continue inspection of stormwater system.
 - Drainage Complaint initiated inspections are performed per the procedures outlined in Stormwater Infrastructure Inspections SOP.
 - All wastes and wastewaters are disposed of properly.
- DEE (Contractor)
 - Assist in the infrastructure inspections and maintenance of county-maintained facilities.



IMPLEMENT (CONT)

- DEE (Stormwater Permit)
 - Self-initiated inspections are performed per the procedures outlined in Stormwater Infrastructure Inspections SOP.

DOCUMENTATION

Easement Agreements
Environmental Engineering Reference Manual
Filterterra Device Operation and Maintenance Inspection Report
Maintenance and Inspections of County Maintained Facilities SOP
Operation and Maintenance Inspection Record
Stormwater Infrastructure Field Screening Field Sheet
Stormwater Infrastructure Inspections Program SOP
SWIFT
Various GIS layers to be updated at a later date.

SCHEDULE OF ACTIVITIES & REPORTING

- PY1 – Develop written procedures for the county maintained SWM/BMP facilities, continue to implement maintenance and inspection program, modify as needed to maintain compliance.
- PY 1-5 –Continue to maintain all necessary project documentation.
 - Provide annually:
 - List of activities including inspections, maintenance and repair of stormwater infrastructure.
 - Total number of stormwater structures operated.
 - Type and number of stormwater structures inspected and maintained.
 - Total linear feet of storm sewer system owned and/or operated.
 - Total linear feet of storm sewer system inspected.
- PY 2-5 –Continue to implement program, and modify as needed to maintain compliance.

CONTACT

DEE—Drainage Superintendent
DEE – Stormwater Compliance Specialist

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit



Privately Maintained SWM Facilities

Part I.B.2.h)2)

REQUIREMENTS

Ensure the long-term operation and maintenance of privately-maintained SWM facilities.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater				
Permit		✓		✓
Drainage		✓	✓	
	IST			
		✓		

MANAGE

➤ DEE (Drainage)

- Develops informational/data tracking systems (Assistance from IST).
- Manages program for privately maintained SWM facilities.
- Develops written procedures verifying the inspection and maintenance of privately maintained facilities.
- Verifies inspections and maintenance per the procedures outlined in Verification of Inspections and Maintenance for Privately Maintained SWM Facilities SOP (draft).
- Easement agreements contain the responsibilities of the owner of the SWM/BMP facility and the requirements for inspection and maintenance.

IMPLEMENT

➤ DEE (Drainage)

- Facilities are inspected as follows:
 - Within one year of receiving notification of the SWM Facility certification
 - At least once during the cycle of the permit
 - As needed, to verify inspections and required maintenance
 - In response to reports of potential drainage issues
- If the owner fails to respond to maintenance/inspection notifications or requirements, the county may proceed as follows:
 - Facility inspection by county personnel
 - Referral of maintenance issues to drainage superintendent for:
 - Assessment of maintenance needs
 - Referral to Chesterfield County Attorney's Office (should maintenance be performed)



DOCUMENTATION

Easement Agreements
Environmental Engineering Reference Manual
Filterra Device Operation and Maintenance Inspection Report
Operation and Maintenance Inspection Record
SWIFT
Various GIS layers to be updated at a later date
Verification of Inspections and Maintenance for Privately Maintained SWM Facilities SOP (draft)

SCHEDULE OF ACTIVITIES & REPORTING

- PY1 – Develop written procedures for the privately maintained SWM facilities, continue to implement verification of maintenance and inspection program, modify as needed to maintain compliance.
- PY 1-5 – Continue to maintain all necessary project documentation.
 - Provide annually:
 - List of activities including inspections, and notifications of maintenance and repair of stormwater infrastructure.
- PY 2-5 – Continue to implement program, and modify as needed to maintain compliance.

CONTACT

DEE—Drainage Superintendent

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit



MS4 Service Area Mapping

Part I.B.2.h)3), 4), and 5)

REQUIREMENTS

Map the MS4 service area and outfalls and identify impervious and pervious drainage areas served by the MS4.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓		
Consultant		✓	✓	
	IST			
		✓		

MANAGE

- DEE (Stormwater Permit, Consultant)
 - Develops informational/data tracking systems. (Assistance from IST).
 - Manages program for maintenance of GIS layers for MS4 service area and infrastructure mapping.

IMPLEMENT

- DEE (Stormwater Permit)
 - Maintains and updates GIS layers for MS4 service area and infrastructure mapping. (Assistance from Consultant).

DOCUMENTATION

To Be Developed



SCHEDULE OF ACTIVITIES & REPORTING

- PY 2-5 – Map the MS4 service area no later than 18 months after the effective date of this state permit.
 - Track for each outfall:
 - An individual identification number,
 - local watershed, hydrological code (HUC) 6 and receiving water;
 - the latitude and longitude in degrees, minutes and seconds.
 - Maintain and update the information for new outfalls.
- PY 2 – Submit in an electronic format the following for each local watershed, HUC 6 and Chesapeake Bay Segment:
 - The number of impervious, pervious and total acres **served** by the MS4 as of June 30, 2009.
 - The number of impervious, pervious and total acres **treated** by stormwater controls as of June 30, 2009,
- PY 4 – Submit in an electronic format an updated list of the above containing information after 2009.

CONTACT

DEE—Stormwater Permit Manager

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit



i) County Facilities

PURPOSE

To ensure proper operation and maintenance practices are employed at county facilities in order to reduce the potential for pollutants to enter the MS4.

BACKGROUND

The county performs environmental compliance audits including stormwater pollution prevention at municipal facilities. Stormwater pollution prevention activities include SWPPPs and SPCC plans at applicable facilities. The county maintains an inventory of public facilities with the potential for water quality impacts, good housekeeping practices at county facilities continue to be implemented through enforcement of the county's ordinance prohibiting illicit discharges, countywide and departmental SOPs, and proper municipal vehicle inspections and maintenance.

REQUIREMENTS

Establish good housekeeping practices to prevent discharges into the MS4 from county owned and operated facilities and, develop and implement SWPPPs for High Priority Municipal Facilities (HPMF)s.

UPDATES

In PY1, DEE established the following criteria for the identification of HPMFs by examining the state permit requirements as well as the definitions of HPMFs included in other regional Phase I state permits:

HPMFs are defined as county-owned facilities that do not require a separate VPDES industrial stormwater permit and have any of the following items exposed to stormwater:

- Residuals from using, storing or cleaning machinery or equipment.
- Materials or residuals from spills or leaks.
- Material handling equipment (except adequately maintained vehicles).
- Materials of products such as rock, salt or fill dirt exposed during loading/unloading or transporting activities.
- Materials or products stored outdoors (except final products intended for outside use that do not discharge pollutants).
- Materials or products held in open or poorly-maintained storage drums, barrels, tanks or similar containers.
- Waste material except waste in covered, non-leaking containers such as dumpsters.
- Process wastewater.
- Particulate matter or visible deposits from roof stacks, vents or both.



DEE performed a desktop assessment of all county properties using the established HPMF definition criteria and coordinated with GSEN to provide Quality Assurance/Quality Control (QA/QC) to the list of identified potential HPMFs. In PY2, the list of HPMFs will be edited as necessary to ensure that county properties meeting the definition of a HPMF will be addressed through this program. DEE will also collaborate with GSEN in the development of SWPPP templates for HPMFs.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓
Drainage			✓	
	General Services			
GSEN		✓		
B&G			✓	
	Utilities			
O & M			✓	
	Parks			
			✓	
	Schools			
Maintenance			✓	

MANAGE

- DEE (Stormwater Permit)
 - Ensures proper identification of HPMFs.
 - Performs a desktop assessment of all county properties to determine if properties may be defined as HPMFs.
 - QA/QC of desktop assessment
 - Performs site visits to potential HPMFs identified
 - Verify results of the desktop assessment
 - Establish priority schedule for SWPPP development based on operations and activities performed at each site
 - Maintains a list of HPMFs throughout the permit cycle
 - Add or remove facilities as necessary
 - Develop SWPPPs for all HPMFs no later than 36 months after effective date of this permit.

IMPLEMENT

- DEE (Stormwater Permit), General Services (GSEN), Parks, Utilities & Schools
 - Install and maintain markings on stormwater inlets located on HPMF and on county properties with greater than 2 acres of impervious surface.



- Maintain and update SWPPPs, as needed.

DOCUMENTATION

4.3.3. Objectives, Targets and Programs Procedure
4.4.6.19 OC Control of Stormwater Runoff
4.4.6.20 CWOC VWS Washrack Procedure
4.4.6.20 OC Vehicle Scheduled Services
4.4.6.21 OC Bulk Storage for Oil, Antifreeze, Greases & Other Fluids
4.4.6.CWOC.8.Pollution Prevention Program
B & G 4.4.6.4.OC Equipment Washing
ENVMGT.FORM.0010 Objectives and Summaries Table
Parks Wash Station SOP

SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 –Review existing policies, procedures and practices, continue to implement program, modify as needed to maintain compliance. Define HPMFs, perform desktop assessment of county properties, assemble list of HPMFs based on desktop assessment, modify as needed to maintain compliance.
- PY 2- Perform initial site visits, verify desktop assessment of HPMFs, continue to implement program. Initiate development of SWPPPs for HPMFs, modify as needed to maintain compliance.
- PY 2-4– Continue to implement program, modify as needed to maintain compliance.
- PY 3- Complete SWPPPs for all HPMFs, continue to implement program, modify as needed to maintain compliance.
- PY 4-5 Continue to implement program, update list of HPMF, modify as needed to maintain compliance.
- PY 5– Ensure storm drain markings are completed, continue to implement program, modify as needed to maintain compliance.

CONTACT

DEE—Stormwater Compliance Specialist
GSEN—Environmental Manager
Parks—Assistant Director
Building and Grounds—Superintendent
Utilities – On-Duty Personnel
Schools – Environmental Health and Safety Administrator

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit



j) Public Education/Participation

PURPOSE

To provide information to the public to educate residents on stormwater runoff and how they can help improve the water quality of the waterways and other natural resources.

BACKGROUND

Public education efforts aim to provide information to the audience, while the goal of a public participation program is to encourage volunteerism, public comment and input on policy, and activism in the community. Many activities can and often do achieve both goals, therefore they are combined into one. The ultimate outcome of all of the education and participation BMPs should be to elicit specific changes in behavior that benefit water quality.

The county's public information program is broken down into three categories: general education, targeted outreach and volunteer activities. General education occurs through staff interaction with the public, the DEE website and publications available at various county offices. Targeted outreach focuses on a specific audience and subject matter. The top three target audiences in county are general homeowners, schools and businesses. The primary pollutants that the programs are targeting are from yard, automobile & household maintenance. The targeted behaviors are fertilizer use, pet waste disposal, car-washing practices, business housekeeping practices and illicit discharges. Volunteer activities occur through coordination of county staff and residents interested in water quality and participation in environmental programs, including citizen water quality monitoring, tree plantings and clean-up programs. DEE is also involved in several multi-jurisdictional activities as well.

The permittee is charged with continuing the promotion, publication, facilitation and encouragement of programs or activities that increase targeted groups' abilities to recognize and reduce contamination of stormwater runoff. For the activities required of Part I.B.2.j), the following definitions apply:

- Promote – to help something happen, develop or increase
- Publicize – to bring to public notice
- Facilitate – to make something easier; to help (something) run more smoothly and effectively
- Encourage – to make (someone) more likely to do something; to make (something) more appealing or more likely to happen
- Target – to direct an action, message, etc., at someone or something



UPDATES

In PY1, DEE continued to promote educational outreach and participation outlined in the state permit on the county website, through flyer distribution, educational videos on social media, and presentations by county staff. DEE also began outreach to encourage the implementation of integrated management practice plans and techniques at private and public golf courses draining to the MS4.

DRAFT



Public Reporting of Illicit Discharges

Part I.B.2.j)1)(a)

REQUIREMENTS

Increase the general public's ability to recognize and report the presence of IDID dischargers into the MS4.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓

IMPLEMENT

➤ DEE (Stormwater Permit)

Promote

- Develops storm drain marking campaign
 - Markers are applied to drop inlets throughout Chesterfield County regardless of MS4 ownership. These markers inform the reader of the receiving waterbody and the Illicit Discharge Hotline number. Storm drains advise "No Dumping. This drains to [insert Watershed]. Report Polluters 717-6161".
- Develops Communication Campaign
 - Promotional video
 - Newspaper advertisements
 - Radio advertisements

Publicize

- Distributes the Illicit Discharge Hotline number:
 - DEE website:
 - Illicit Discharge Fact Sheet
 - Storm drain markers
 - Targeted Mailings (postcards)
 - Newspaper advertisements
 - Radio advertisements
- Illicit Discharge Fact Sheets are distributed at:
 - Chesterfield County Public Libraries and Offices
 - Public events
 - Homeowner's association meetings
 - Presentations given by DEE staff
- Promotional video will be publicized on:
 - Chesterfield County social media venues
 - Television spots during Board of Supervisor Meetings



IMPLEMENT(CONT)

➤ DEE (Stormwater Permit)

Facilitate

- DEE provides an Illicit Discharge Hotline, (804)-717-6161 that allows for the reporting of potential IDIDs. Multiple county staff members receive immediate notification through a group text message.

DOCUMENTATION

Not applicable.

SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 – Review existing program, and modify as needed to maintain compliance.
- PY 2 – Update/modify existing informational material, initiate communication campaign, continue to implement program and modify as needed to maintain compliance.
- PY 3-5 – Continue to implement program, evaluate program efforts, and modify as needed to maintain compliance.

CONTACT

DEE—Environmental Outreach Coordinator

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit



Individual & Group Involvement in Local Water Quality Improvement Initiatives

Part I.B.2.j)1)(b)

REQUIREMENTS

Increase the general public's individual and group involvement in local water quality improvement initiatives.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓

MANAGE

➤ DEE (Stormwater Permit)

Promote

- Continue directing volunteer participation in storm drain markings program and a citizen water quality monitoring program

IMPLEMENT

➤ DEE (Stormwater Permit)

Promote

- Partners with local and regional stream and river cleanups, to include:
 - Clean the Bay Day
 - James River Regional Cleanup
- Continue promoting a citizen water quality monitoring program on:
 - DEE website
 - Informational flyer
 - Chesterfield County Social Media

DOCUMENTATION

Not applicable.



SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 –Review existing program, and modify as needed to maintain compliance.
- PY 2 – Update/modify existing volunteer programs and promotional material. Initiate social media outreach, modify as needed to maintain compliance.
- PY 3-5 – Continue to implement program, evaluate program efforts, and modify as needed to maintain compliance.

CONTACT

DEE—Environmental Outreach Coordinator

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

DRAFT



Public and Private Golf Course Outreach

Part I.B.2.j)1)(c)

REQUIREMENTS

Encourage the implementation of integrated management practice (IMP) plans and techniques at private and public golf courses that drain to the MS4.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓

IMPLEMENT

➤ DEE (Stormwater Permit)

Encourage

- Encourages adoption of IMP plans through:
 - Targeted mailings
 - Posted resources on DEE website
 - On-site Consultations
 - Promote iterative BMPs at participating golf courses on DEE website

DOCUMENTATION

Not applicable.

SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 –Establish contact with public and private golf courses within Chesterfield County.
- PY 2 – Identify public and private golf courses that discharge to the county MS4. Catalog existing BMP/IMPs and promote additional techniques during on-site consultations.
- PY 3 – Feature model BMPs or IMPs implemented at participating golf courses on line.
- PY 4-5 – Continue to implement program, modify as needed to maintain compliance.

CONTACT

DEE—Environmental Outreach Coordinator



LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

DRAFT



Disposal of Used Oil and Hazardous Household Wastes

Part I.B.2.j)1)(d)

REQUIREMENTS

Increase the proper disposal of used oil and household hazardous waste (HHW) by the residents of Chesterfield County.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓
	General Services			
GSEN	✓	✓	✓	

IMPLEMENT

➤ General Services (GSEN)

Promote

- Educational materials

Publicize

- Distribute educational material:
 - Fairs
 - Public events
 - Presentations given by county staff
- Educational material is posted on:
 - GSEN website
 - Chesterfield County Libraries
 - Chesterfield County social media
 - Local newspapers

Facilitate

- Provide used oil and HHW disposal services year round at two convenience centers free-of-charge

➤ DEE (Stormwater Permit)

Promote

- Develop targeted mailing strategies and materials

Publicize

- Distribute educational material:
 - Presentations given by county staff
- Targeted mailings, as needed



DOCUMENTATION

Not applicable.

SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 – Review existing program, and modify as needed to maintain compliance.
- PY 2-5 – Continue to implement program, modify as needed to maintain compliance.

CONTACT

DEE—Environmental Outreach Coordinator
GSEN—Environmental Officer

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

DRAFT



Pet Waste and Household Yard Waste

Part I.B.2.j)1)(e)

REQUIREMENTS

Increase the proper disposal of pet waste and household yard waste by Chesterfield County residents.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓
	General Services			
GSEN	✓	✓	✓	

IMPLEMENT

➤ **DEE (Stormwater Permit)**

Promote

- Partners with James River Pet Waste Coalition, a regional pet waste outreach campaign
- Distributes pet waste bag dispensers at:
 - Community event presentations
 - Presentations given by county staff
- Provides pet-waste bag stations at county parks and facilities
- Communication Campaign
 - Promotional video
 - Newspaper advertisements
 - Radio advertisements

Publicize

- Targeted mailings, as needed:
 - Community wide
 - Specific to pollution complaints
- Promotional contests utilizing social media
- Posters placed at:
 - Chesterfield County libraries
 - Chesterfield County offices
- Promotional video will be publicized on:
 - Chesterfield County social media venues
 - Television spots during Board of Supervisor Meetings



IMPLEMENT (CONT)

➤ General Services (GSEN)

Promote

- Provides household yard waste disposal areas at the County Convenience Centers

DOCUMENTATION

Not applicable.

SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 –Review existing program, and modify as needed to maintain compliance.
- PY 2 – Continue to implement program, initiate communication campaign, modify as needed to maintain compliance.
- PY 3-5—Continue to implement program, modify as needed to maintain compliance.

CONTACT

DEE—Environmental Outreach Coordinator

GSEN—Environmental Officer

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit



Litter Prevention Program

Part I.B.2.j)1)(f)

REQUIREMENTS

Increase the general public's participation in the Litter Prevention Program.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓
	General Services			
GSEN	✓	✓	✓	

IMPLEMENT

➤ General Services (GSEN)

Promote

- Partners with Central Virginia Waste Management Authority to provide curb-side recycling
- Continues to implement an anti-litter program
- Promotional video showcasing anti-litter prevention
- Organizes community cleanup events

Publicize

- Educational materials and information posted on GSEN website
- Distributes educational materials at:
 - Public events
 - Fairs
 - County staff presentations

➤ DEE (Stormwater Permit)

Publicize

- Targeted mailings, as needed:
 - Community wide
 - Specific to pollution complaints
- Promotional video posted on:
 - Chesterfield County social media

DOCUMENTATION

GSEN 4.4.6.4.1.Litter Pickup and Disposal



SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 –Review existing program, and modify as needed to maintain compliance.
- PY 2-5 – Continue to implement program, modify as needed to maintain compliance.

CONTACT

DEE—Environmental Outreach Coordinator
GSEN—Anti-Litter Manager
GSEN—Environmental Officer

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

DRAFT



Residential Car Washing

Part I.B.2.j)1)(g)

REQUIREMENTS

Increase the use of methods of car washing that minimize water quality impacts by residents of Chesterfield County.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓

IMPLEMENT

➤ DEE (Stormwater Permit)

Promote

- Provides car wash kits to community groups that conduct charity car washes
 - Flyers distributed to charity carwash patrons
- Develops targeted mailing strategies
- Communication Campaign
 - Promotional video
 - Newspaper advertisements
 - Radio advertisements

Publicize

- Flyers posted in:
 - Chesterfield County Libraries
 - Chesterfield County Offices
 - Print ads and local newspapers
 - Chesterfield County social media
- Distributes educational material and flyers at:
 - Public Events
 - Fairs
 - County Staff Presentations
- Targeted Mailings (postcard) advertisements:
 - Churches
 - Scout troops
 - Community groups
- Promotional video will be publicized on:
 - Chesterfield County social media venues
 - Television spots during Board of Supervisor Meetings



DOCUMENTATION

Not applicable.

SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 – Review existing program, and modify as needed to maintain compliance.
- PY 2 – Develop and implement targeted mailing strategy, continue to implement program, modify as needed to maintain compliance.
- PY 3-5– Continue to implement program, modify as needed to maintain compliance.

CONTACT

DEE—Environmental Outreach Coordinator

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

DRAFT



Proper Use, Application and Disposal of Pesticides, Herbicides, and Fertilizers

Part I.B.2.j)1)(h)

REQUIREMENTS

Promote the proper use, application, and disposal of pesticides, herbicides, and fertilizers by public, commercial, and private applicators and distributors.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓
	Extension			
	✓	✓	✓	

IMPLEMENT

➤ Chesterfield County Cooperative Extension (Extension)

Promote

- Residential Applicators
 - Extension continues to implement the following programs:
 - Grass Roots Program
 - Landscape for Life Program
 - Learn Your Landscape Program
- Private Applicators—uses or supervises the use of any pesticide which is classified for restricted use for purposes defined in the Code of Virginia (2VAC5-685-10)
- Public (municipal), Commercial Applicator and Distributor Certifications
 - Continue to conduct regional professional applicator certification and recertification courses approved by the Virginia Department of Agriculture and Consumer Services, pursuant to the Code of Virginia (2VAC20-51-20)

Publicize

- Information and fact sheets on Extension website
- Distributes educational material and flyers at:
 - Public events
 - Fairs
 - Chesterfield County Libraries
 - Chesterfield County offices
 - County staff presentations



IMPLEMENT (CONT)

➤ DEE (Stormwater Permit)

Publicize

- Information and fact sheets on DEE website
- Develops a promotional video about pesticides, herbicides and fertilizers to be posted on:
 - DEE website
 - Chesterfield County social media
- Distributes educational material and flyers at:
 - Public events
 - Fairs
 - Chesterfield County Libraries
 - Chesterfield County offices
 - County staff presentations

DOCUMENTATION

Not applicable.

SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 – Review existing program, and modify as needed to maintain compliance.
- PY 2 – Develop promotional video, continue to implement program, modify as needed to maintain compliance.
- PY 3-5– Continue to implement program, modify as needed to maintain compliance.

CONTACT

DEE—Environmental Outreach Coordinator
Extension—Director

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit



Private Property Owner Voluntary Stormwater Management Techniques and/or Retrofits

Part I.B.2.j)1)(i)

REQUIREMENTS

This program is to increase the number of voluntary stormwater management techniques or retrofits by private property owners of Chesterfield County.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓

IMPLEMENT

➤ DEE (Stormwater Permit)

Encourage

- Encourage the use of stormwater management techniques and/or retrofits through:
 - Promotional video “How to” series for:
 - Rain Gardens
 - Rain Barrels
 - Bay Scaping
 - Infiltration Techniques
 - Communication Campaign
 - Promotional video
 - Newspaper advertisements
 - Radio advertisements
 - Demonstration rain gardens at county facilities with interpretive signage
 - Educational Material distributed at:
 - Chesterfield County Libraries
 - Chesterfield County Offices
 - Public events
 - Fairs
 - County staff presentations
 - Promote Alliance for the Chesapeake Bay’s Riverwise Communities programs
 - Promote James River Association River Hero Homes Program
 - Feature private property stormwater techniques and/or retrofits on:
 - Chesterfield County social media and EE website



DOCUMENTATION

Not applicable.

SCHEDULE OF ACTIVITIES

- PY 1 – Review existing program, and modify as needed to maintain compliance.
- PY 2 – Initiate communication campaign, continue to implement program, modify as needed to maintain compliance.
- PY 3-5– Continue to implement program, modify as needed to maintain compliance.

CONTACT

DEE—Environmental Outreach Coordinator

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

DRAFT



Targeted Strategies Towards Local Groups of Commercial, Industrial, and Institutional Entities

Part I.B.2.j)1)(j)

REQUIREMENTS

Increase operational BMPs and good housekeeping techniques that minimize stormwater impacts by local, commercial, industrial, and institutional entities.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓

IMPLEMENT

- DEE (Stormwater Permit)

Target

- Direct outreach activities, as needed, towards local commercial, industrial and institutional entities identified by the Chesterfield County Stormwater Compliance Specialist:
 - Educational materials
 - Stormwater management self-checklist
 - SWPPP

DOCUMENTATION

Dry Weather Screening SOP
 Wet Weather Screening SOP

SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 – Review existing program, and modify as needed to maintain compliance.
- PY 2-5 – Continue to implement program, modify as needed to maintain compliance.

CONTACT

DEE—Environmental Outreach Coordinator



LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

DRAFT



k) Training

PURPOSE

To provide pollution prevention training to county employees to inform them of proper practices to reduce the potential of pollutants from entering the MS4, and ensure that county staff receive proper training and obtain the necessary certifications in order to engage in certain activities as required by regulation.

BACKGROUND

The public information and engagement program plays an important role in protecting water quality in the County. With past programs, DEE has offered training to local universities, businesses, civic organizations and volunteer organizations. These programs were designed to raise awareness of water quality issues. While DEE is primarily responsible for ensuring permit compliance for training, many departments have various training programs that touch on some if not all of the requirements of the training program. Some examples of existing training programs includes general training to county personnel in stormwater management techniques and pollution prevention provided by DEE, The Chesterfield County Learning and Performance Center (LPC) conducts an Environmental Awareness Class for all new hires and any employee who wishes to attend. The class covers general environmental awareness and includes curriculum on stormwater pollution prevention. Parks conducts spill response training for its employees to maintain its Environmental & Sustainability Management System (ISO 14001) certification. DEE received a grant funding to create training modules for county staff and the local development community about the Runoff Reduction Method and the Energy Balance Equation. DEE staff attends DEQ training and have received the necessary Stormwater Management and Erosion and Sediment Control certifications.

REQUIREMENTS

Provide the necessary training as outline in the state permit to county staff and ensure appropriate staff obtains proper certifications necessary to perform the functions related to their position.

UPDATES

In PY1, DEE began research and development of new training modules for alignment with the requirements of the state permit. This information was used in collaborative efforts with the LPC to begin development of draft training modules that will detail good housekeeping and pollution prevention practices for activities at various county facilities and construction projects. In PY1, multiple departments ensured employees and contractors applying pesticides and herbicides were properly trained and/or certified. Additionally, all DEE staff members including program administrators, plan reviewers and inspectors maintained the appropriate ESC and VSMP certifications. Although training was provided to various employees in illicit discharge recognition and general good



housekeeping practices during PY1, DEE will complete development of specific training modules that address the requirements of Part I.B.2.k)1),2),3) and 7) in PY2. Once developed, the training modules will be launched and completed by appropriate personnel to satisfy the biennial training requirements.

DRAFT



Providing Biennial Stormwater Training

Part I.B.2.k)1), 2), 3) ,7) and 9)

REQUIREMENTS

Provide biennial training to county staff in stormwater pollution prevention practices and identification of unauthorized discharges.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓
	Learning & Performance Center			
		✓	✓	

MANAGE

- DEE (Stormwater Permit) and LPC
 - Coordinate the following:
 - Plan for implementation
 - Audience
 - Course design and development
 - Testing and evaluation
 - Deployment

IMPLEMENT

- DEE (Stormwater Permit) and LPC
 - Provide biennial training in recognizing and reporting illicit discharges
 - To Be Developed
 - Provide biennial training in good housekeeping and pollution prevention:
 - During road, street and parking lot maintenance
 - To Be Developed
 - In and around county maintenance and public works facilities
 - To Be Developed
 - In and around county recreation facilities
 - To Be Developed

DOCUMENTATION

To Be Developed.



SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 – Coordinate with LPC
- PY 2 – Update/modify existing training material, initiate training modules; continue to implement program and modify as needed to maintain compliance.
- PY 3-5 – Continue to implement program, evaluate program efforts, and modify as needed to maintain compliance.

CONTACT

DEE—Environmental Outreach Coordinator

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

DRAFT



Ensuring Proper Training and Certification

Part I.B.2.k)4), 5), 6) and 9)

REQUIREMENTS

Ensure employees and contractors that apply pesticides and herbicides; county plan reviewers, inspectors, program administrators and construction site operators; and county employees implementing modified stormwater management design criteria are properly trained and certified.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Development				
Management		✓		
Inspections			✓	
Plans Review			✓	
Stormwater Permit		✓		✓
Drainage			✓	
	General Services			
GSEN		✓	✓	
B&G		✓	✓	
	Utilities			
O & M		✓	✓	
	Schools			
Maintenance		✓	✓	
	Building Inspections			
		✓	✓	
	Parks			
		✓	✓	

MANAGE

- General Services (GSEN)
 - Pesticide and Herbicide Application
 - Manages countywide procedures including:
 - Requiring proper certifications for application
 - Contractor Environmental Management Procedures



- DEE (Inspectors, Plans Review)
 - Erosion and Sediment Control
 - Management review of completion in training records
 - Virginia Stormwater Management
 - Management review of completion in training records

DOCUMENTATION

4.4.6.CWOC.12.Pesticide Management Procedures

SCHEDULE OF ACTIVITIES & REPORTING

- PY 1 – Review existing practices and procedures, continue to implement programs, and modify as needed to maintain compliance.
- PY 2-5 –Continue to implement program, modify as needed to maintain compliance.

CONTACT

DEE—Assistant Director
B&G—Superintendent
Parks—Assistant Director
GSEN—Environmental Manager
Utilities—Senior Utility Supervisor (1)
Building Inspections—Assistant Building Official
DEE—Environmental Outreach Coordinator

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit



Spill Response Training

Part I.B.2.k) 8) and 9)

REQUIREMENTS

Ensure emergency personnel receive spill response training.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Stormwater Permit				✓
	Fire & EMS			
Resource Management Division	✓	✓	✓	
	Police			
Training Unit	✓	✓	✓	

IMPLEMENT

- Police (Training Unit)
 - Recruits receive the following training:
 - Hazardous material training/8 hours
- Fire & EMS (Resource Management Division)
 - Fire fighters receive the following training:
 - Hazardous Materials First Responder – Awareness /8 hours
 - Hazardous Materials First Responder – Operations /32 hours
 - Emergency medical personnel receive the following training:
 - Hazardous Materials First Responder – Operations for the EMS Provider/32 hours

DOCUMENTATION

Not applicable.

SCHEDULE OF ACTIVITIES

- PY 1 – Review existing training, continue to implement programs, and modify as needed to maintain compliance.
- PY 2-5 –Continue to implement program, modify as needed to maintain compliance.



CONTACT

Fire & EMS—Lieutenant—Resource Management Division
Police—Senior Training Analyst—Training Unit

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

DRAFT



I) Water Quality Screening Programs

PURPOSE

To establish a screening program, using specific criteria, in order to identify illicit connections and unauthorized discharges to the MS4.

BACKGROUND

The county performs outfall field screening to identify and investigate the potential of non-stormwater discharges to the MS4. MS4 outfalls are screened for physical indicators and, when applicable, in situ and laboratory chemical testing and analysis of dry weather flows are performed. The outfall locations are selected from commercial, industrial and residential areas that have the potential for illicit discharges. Results of dry weather screenings performed are maintained on file.

REQUIREMENTS

Enable the county to inspect outfalls for non-stormwater discharges and areas suspected of contributing significant pollutant loadings to the MS4.

UPDATES

In PY1, revisions to the Dry Weather Screening SOP were completed to align the screening and follow-up procedures with the requirements of the state permit. In PY1, the wet weather screening written procedures were developed and submitted to DEQ. Implementation of wet weather screening will begin in PY2.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater Permit		✓	✓	✓



IMPLEMENT

- DEE (Stormwater Permit)
 - Continue to implement dry weather screening program
 - Screen 500 MS4 outfalls within 5 years.
 - Inspection priority given to outfalls draining the following:
 - Areas of concern as outlined in Part I.B.2.l)1)(a)
 - Commercial areas
 - Industrial areas
 - Older residential areas
 - Areas of historical pollution complaints
 - Outfalls to be inspected for physical indicators and dry weather flow signifying non-stormwater discharges.
 - Flows will be sampled and analyzed, as needed, to identify potential IDID
 - Develop written procedures for initial screening and follow-up purposes
 - Implement the Wet Weather Screening Program
 - Outfalls representative of the county's MS4 shall be chosen
 - Outfalls will be inspected for physical indicators signifying non-stormwater discharges
 - Flows will be sampled and analyzed for evidence to identify areas suspected of contributing significant pollutant loadings
 - Coordinate with appropriate staff and departments to investigate IDID
 - Appropriate follow-up procedures will be performed to ensure elimination of IDID

DOCUMENTATION

Dry Weather Screening SOP
Field and Laboratory Instrumentation SOP
General Program Supplement
Outfall Field Screening Sheet
Wet Weather Screening

SCHEDULE OF ACTIVITIES & REPORTING

- PY1 – Review existing practices and programs, and modify as needed to maintain compliance.
- PY 2-5 – Continue to implement program, modify as needed to maintain compliance.
- PY1 – Develop written procedures for the wet weather screening program.
- PY 2-5 – Implement wet weather screening program and modify as needed to maintain compliance.

CONTACT

DEE—Stormwater Compliance Specialist



LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit

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m)Infrastructure Coordination

PURPOSE

To coordinate with VDOT regarding issues of MS4 physical-interconnectivity.

BACKGROUND

Prior to the formal requirements of coordination outlined in the permit, coordination between the county and VDOT staff on drainage issues, illicit discharges and/or improper disposal and spills, occurred informally either when the issue was in VDOT's right-of-way or physically-interconnected MS4s.

REQUIREMENTS

Coordinate with VDOT regarding issues of MS4 physical-interconnectivity.

UPDATES

In PY1, coordination efforts were implemented to align the program with the state permit requirements. DEE staff hosted an infrastructure coordination meeting on November 9th, 2015 in which four (4) representatives from DEE and three (3) representatives from VDOT were in attendance. At this meeting, each of the items outlined in Part I.B.2.m) of the permit were discussed. Many of the items discussed depended on the delineation of the county's MS4 service area scheduled to be completed in PY2.

ROLES & RESPONSIBILITIES

	Administer	Manage	Implement	Evaluate
	DEE			
Administration	✓			
Stormwater				
Permit		✓	✓	✓
Drainage			✓	



IMPLEMENT

- DEE (Stormwater Permit)
 - Meet annually with VDOT to discuss priority issues relevant to the interconnectivity of the MS4s, to include:
 - MS4 mapping
 - Chesapeake Bay TMDL Action Plans
 - Other TMDL Action Plans
 - Credit for TMDL implementation
 - Illicit discharge detection and elimination
 - Water quality monitoring

DOCUMENTATION

To Be Developed.

SCHEDULE OF ACTIVITIES

- PY 1-5 – Meet annually with VDOT, continue to implement program, modify as needed to maintain compliance.

CONTACT

DEE—Stormwater Permit Manager

LAST REVISION

DATE	DESCRIPTION
04/29/2016	Updates to align with requirements of the new permit



Appendix A: List of Abbreviations

BI	Department of Building Inspections
BMP	Best Management Practices
B&G	Chesterfield County General Services – Building and Grounds Maintenance Division
BOS	Chesterfield County Board of Supervisors
BUDGET & MAINTENANCE	Chesterfield County Department of Budget and Management
CIP	Capital Improvement Plan
CPL	Chesterfield County Center for Performance Learning
DEE	Chesterfield County Department of Environmental Engineering
DEQ	Virginia Department of Environmental Quality
DEVELOPMENT MANAGEMENT	Chesterfield County Department of Environmental Engineering – Development Management Division
DMR	Discharge Monitoring Reports
DRAINAGE	Chesterfield County Department of Environmental Engineering – Watershed Management Division Drainage Section
EPCRA	Emergency Response and Community Right-to-Know Act
ESRI	Environmental Systems Research Institute
EXTENSION	Chesterfield County Cooperative Extension
FIRE & EMS	Chesterfield County Fire & Emergency Medical Services
FIRE MARSHAL	Chesterfield County Fire & Emergency Medical Services – Fire Marshal’s Office
FLEET	Chesterfield County General Services – Fleet Management Division
GIS	Geographic Information System
GENERAL SERVICES	Chesterfield County Department of General Services
GSEN	Chesterfield County General Services – Environmental Division
HAZMAT	Hazardous Materials
HHW	Household Hazardous Waste
HPMF	High Priority Municipal Facility
HUC	Hydrological Code
IDID	Illicit Discharges and Improper Disposal
IHRR	Industrial and High Risk Runoff
IMP	Integrated Management Practice
INSPECTORS	Chesterfield County Department of Environmental Engineering Inspectors
LPC	Learning and Performance Center
MS4	Municipal Separate Storm Sewer System
MS4PP	Municipal Separate Storm Sewer System Program Plan
NMP	Nutrient Management Plan
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
PARKS	Chesterfield County Department of Parks and Recreation



PLANS REVIEW	Chesterfield County Department of Environmental Engineering – Development Management Plans Review
POLICE	Chesterfield County Police Department
PY	Permit Year
QA/QC	Quality Assurance/ Quality Control
RISK	Chesterfield County Department of Risk Management
SOP	Standard Operating Procedure(s)
SPCC	Spill Prevention, Control and Countermeasures
SSO	Sanitary Sewer Overflow
STORMWATER	Chesterfield County Department of Environmental Engineering –
PERMIT	Stormwater Permit Section
SWM	Stormwater Management Facility
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
UTILITIES	Chesterfield County Department of Utilities
VDOT	Virginia Department of Transportation
VPDES	Virginia Pollutant Discharge Elimination System
VSMP	Virginia Stormwater Management Program

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Appendix B: List of Department Contacts

DEE		
Director Scott Smedley 804.751.2311	Water Quality Manager Weedon Cloe 804.768.7797	Stormwater Compliance Specialist David Taylor 804.751.4652
Assistant Director Scott Dunn 804.748.1030	Drainage Superintendent Jerry Duffy 804.748.1024	Environmental Outreach Coordinator Lorne Field 804.748.1920
Stormwater Permit Manager Scott Flanigan 804.768.7435		
General Services		
Building and Grounds Superintendent Earl Kirby Jr. 804.717.6395	GSEN Environmental Manager Jeff Howard 804.717.6531	Fleet Environmental Health & Safety Officer Michele Ervin 804.751.2393
GSEN Anti-Litter Manager Pam Cooper 804.751.2227	GSEN Environmental Officer Jason St. Clair 804.768.7271	
Parks		
Parks Assistant Director Jim Perdue 804.751.4481		



Utilities		
Senior Utility Supervisor (1) Deborah Harsh 804.768.7586	Senior Utility Supervisor (2) Chris Clements 804.768.7586	On-Duty Personnel 804.748.1310 or 804.744.1360 (after-hours)
Fire & EMS		
On-Duty Fire Marshal 804.748.1426	Emergency Communication 911	Resource Management Division Lieutenant Bill Jeffords 804.379.7450
Police		
Training Unit Senior Training Analyst Jennifer Garbo 804.717.6154	Emergency Communication 911	
Risk		
Environmental Health & Safety Manager David Johnson 804.318.8805		
Schools		
Environmental Health & Safety Administrator Alan Lederman 804.748.1902		
Building Inspections		
Assistant Building Official Ron Clements 804.751.4163		



Extension
Director Mike Likins 804.751.4404

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Appendix C: List of Policies and Procedures

COUNTYWIDE
<p>4.3.3. Objectives, Targets and Program Procedures (9/23/2015)</p> <p>4.4.3. Communication Procedure (03/06/2015)</p> <p>4.4.6.20 CWOC VWS Washrack Procedure (03/20/2015)</p> <p>4.4.6.CWOC.1.Contractor Environmental Procedure (12/20/2013)</p> <p>4.4.6.CWOC.12.Pesticide Management Procedure (11/21/2011)</p> <p>4.4.6.CWOC.18.Waste Mgmt Procedure (09/19/2013)</p> <p>4.4.6.CWOC.8.Pollution Prevention Program (02/03/2014)</p> <p>4.4.7. Emergency Preparedness and Response Procedure (04/20/2015)</p> <p>CHKLST.0004 Contractor Environmental Checklist (05/12/2011)</p> <p>CHKLST.0034.Environmental Release Reporting FC (N/A)</p> <p>ENVMGT.CHLST.0035.SMART (12/02/2014)</p>
DEE
<p>Agreement in Lieu of an Erosion and Sediment Control Plan and Stormwater Management Plan for Single Family Residence (07/01/2014)</p> <p>Chesterfield County Pollution Prevention Plan Sheet (N/A)</p> <p>Chesterfield County Stormwater Pollution Prevention Plan Template (08/15/2015)</p> <p>Commercial Detailed Facility Inspection Form (07/14/2015)</p> <p>Detailed Facility Inspection Form (07/06/2015)</p> <p>Dry Weather Screening SOP (12/17/2015)</p> <p>Environmental Engineering Inspector Guidance Manual (02/13/2013)</p> <p>Environmental Engineering Reference Manual (3/18/2011)</p> <p>Field and Laboratory Instrumentation SOP (08/2011)</p> <p>Filtrerra Device Operation and Maintenance Inspection Report (N/A)</p> <p>General Outfall Inspection Form (03/24/2016)</p> <p>General Program Supplement (04/29/2016)</p> <p>Industrial and High Risk Runoff Inspection Program SOP (02/29/2016)</p> <p>Maintenance and Inspections of County Maintained Facilities SOP (03/01/2016)</p> <p>Operation and Maintenance Inspection Record (12/2011)</p> <p>Outfall Field Screening Sheet (02/09/2016)</p> <p>Sample BMP Certification (07/01/2014)</p>



DEE (cont.)
<p>Spill Response SOP (08/04/2011)</p> <p>Stormwater Capital Improvement Plan (12/17/2015)</p> <p>Stormwater Compliance Table for Part IIB (N/A)</p> <p>Stormwater Infrastructure Field Screening Sheet (04/29/2016)</p> <p>Stormwater Infrastructure Inspection Program SOP (04/28/2016)</p> <p>Stormwater Outfall Table for Part IIB (N/A)</p> <p>Stormwater Permit Coverage Self-Checklist (N/A)</p> <p>Subdivision Plan Design/Review Checklist (N/A)</p> <p>Verification of Inspections and Maintenance for Privately Maintained Facilities SOP (03/01/2016)</p> <p>Wet Weather Screening SOP (12/17/2015)</p>
General Services
<p><u>FLEET</u></p> <p>4.4.6.12 OC Proper Disposal of Street Sweeper Waste (02/28/2014)</p> <p>4.4.6.19 OC Control of Storm Water Runoff (11/13/2014)</p> <p>4.4.6.20 OC Vehicle Scheduled Services (11/13/2014)</p> <p>4.4.6.21 OC Bulk Storage for Oil, Antifreeze, Greases & Other Fluids (10/30/2014)</p> <p><u>BUILDING & GROUNDS</u></p> <p>B&G 4.4.6.2 OC Application Equipment Cleaning (09/08/2013)</p> <p>B&G 4.4.6.4.OC Equipment Washing (10/14/2013)</p> <p><u>GSEN</u></p> <p>4.5.2. Evaluation of Compliance Procedure (09/19/2013)</p> <p>ENVMGT.FORM.0010 Objectives and Summaries Table (10/20/2015)</p> <p>GSEN 4.4.6.4.1. Litter Pickup and Disposal (03/10/2015)</p>
Parks and Recreation
<p>Parks Wash Station SOP (06/24/2015)</p> <p>Parks Pesticide Management SOP (6/24/2015)</p> <p>Parks Spill Response SOP (04/29/2015)</p>



Utilities
WWC 2.05 Televising Wastewater Lines (10/16/2015) WWC 4.5.1.1 Monitoring and Measuring Spreadsheet—Reduction of Wastewater Overflows (01/08/2015)

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